



Attorney Docket No. 392.1716

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Tomonaga YAMAMOTO, et al.

Application No.: 09/871,642

ATTENTION

Confirmation No.: 9776

CERTIFICATE OF CORRECTION

Filed: June 4, 2001

BRANCH

U.S. Patent No.: 6,812,614

Batch No.:

Issued: November 2, 2004

For: A ROTOR FOR A SYNCHRONOUS MOTOR DEFINED BY A HYPERBOLIC
FUNCTION (AS AMENDED)

REQUEST FOR CERTIFICATE OF CORRECTION

01 FC:1811

100.00 OP

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

09/05/2006 MBERHE1 00000031 6812614

01 FC:1811

100.00 OP

Patentee(s) respectfully request(s) that a Certificate of Correction be issued in the subject patent, pursuant to 35 USC § 254 and 37 CFR § 1.322, to correct the error(s) shown on the attached Form PTO-1050. A check in the amount of \$100 to cover the cost of the Certificate is attached.

The errors to be corrected in the table in column 4 of subject U.S. patent arose through inadvertence in the preparation of the English language application, which is based on the priority document JP 2000-181190, copy enclosed. That same table appears in paragraph [0015] on page 5 of the Japanese priority document and the changes set forth on the attached Certificate of Correction reinstate the numerical values in the "Inductance" column to correspond with those of the priority document.

Furthermore, the rate of increase of the value "1.63" with respect to a reference value (which is set as 1.47) is calculated correctly to be +11%, a rate of increase of the value "1.81" with respect to the reference value "1.47" is calculated correctly to be +23%, and a rate of increase of the value "1.47" with respect to the reference value is correctly calculated to be +0%.

Certificate

SEP 06 2006

of Correction

Additionally, the Request for Certificate of Correction filed April 27, 2005 incorrectly deleted "se" at column 4, line 23. Patentee(s) received a Certificate of Correction mailed July 21, 2005 deleting "se," at column 4, line 23. Instead, "se" should have been replaced with - - set - -, which is shown on the attached Form PTO-1050.

One or more of the errors shown on the attached Form PTO-1050 is or are within the responsibility of the undersigned; each thereof is of a clerical or typographical nature or of minor character and occurred in good faith, and the correction thereof is consistent with the prosecution record.

Respectfully submitted,

STAAS & HALSEY LLP

Date: _____

Aug. 30, 2006

By: _____

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(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO : 6,812,614

DATED : November 2, 2004

INVENTOR(S) : Tomonaga YAMAMOTO, et al.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 4, line 10 (inside table and under the heading "Inductance"), change "1.81 (+11%)" to --1.81 (+23%)--;

Column 4, line 11 (inside table and under the heading "Inductance"), change "1.47 (+11%)" to --1.47 (+0%)--;

Column 4, line 23, change "increased" to --reduced--;

Column 4, line 23, after "is" insert - - set - - .

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PATENT NO. 6,812,614

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@ 304 per page

⇒

て説明する。図6は、この1極分の外形形状の説明図である。ロータの中心軸（シャフト2の中心軸）を通り該中心軸と直交し、1極分の外形形状の中央点を通る線をX軸、該X軸とロータ中心線との交点を原点Oとし、該原点Oを通りX軸及びロータ中心軸と直交する線をY軸とする（原点OはXY座標系の原点となる）。

【0012】

この1極分の外形形状Fの幅は、原点Oと1極分外形形状の周方向両端とを結ぶ線とX軸との角度 θ が ± 22 度程度である。そして、この図6では、ロータの1極分の外形形状Fを本発明の双曲線関数の曲線10で構成したときと、円弧11で構成したとき及び $(1/\cos)$ の曲線12で構成したときの3つの線を示している。

【0013】

本発明のロータ1極分の外形形状を表す双曲線関数の一般式は次の1式で表される。

$$R = A - B \cdot \cosh(C\theta) = A - B \cdot (e^{C\theta} + e^{-C\theta}) / 2 \dots (1)$$

上記1式において、Rは原点Oまでの距離、 θ はX軸からの回転角である。また、Aは原点Oから同期電動機のステータ内周面までの距離（ステータ内周面の半径）に基づいて決められる値、Bはギャップに基づいて決められる値で、ロータ1極分の頂点（1極分の中点）とステータ内周面間の距離（ギャップ）に基づいて決められる値である。また、Cは、双曲線の屈曲度を定める値である。

【0014】

図6で示す形状（円弧、 $1/\cos$ 、双曲線関数）に対して、出力トルクとインダクタンスをFEM解析して求めた所、結果は次の通りである。

【0015】

	トルク (Nm)	インダクタンス (mH)
円弧	112	1.63 (+11%)
$1/\cos$	113	1.81 (+23%)
双曲線関数	110	1.47 (+0%)

この解析結果から分かるように、双曲線関数の曲線10で1極分の外形形状を